

Journal of Pediatric Sciences

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Journal of Pediatric Sciences 2013;5:e194

How to cite this article:

Mishra S, Kusuma YS, Babu BV. Immunization Uptake among Children of a Migrant Tribal Community Living in an Eastern Indian city. Journal of Pediatric Sciences. 2013;5:e194

Immunization Uptake among Children of a Migrant Tribal Community Living in an Eastern Indian city

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Abstract:

Background: In India, of the rural-urban migrants, a small segment of people migrated from tribal areas (hilly forest areas) and they possess more vulnerability due to their multiple disadvantage. **Objective:** To report immunization uptake of children of tribal migrants living in an urban city of Eastern India. **Methods:** Data were collected from 126 tribal households who migrated to the city during last 12 years. Data pertaining to the awareness of vaccines and reception of various vaccines were collected from mothers through interviewer administered questionnaire. **Results:** About 95% of mothers were aware of the vaccines. However, immunization uptake was low among this migrant tribal community. About 40% of children who attained 1 year age did not receive even a single vaccine, and none of the child received all doses of required vaccines. The uptake is too low among girl children. **Conclusions:** Migration favours low uptake of vaccination. Hence, migrant-sensitive approaches are to be placed along with the regular primary healthcare services existing in urban areas.

Keywords: Migration, immunization, slums, gender, indigenous population

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Introduction

Universal immunization programme to prevent common childhood diseases is an integral component of child healthcare services in India. There is increased accessibility of healthcare services in both urban and rural areas, still utilization of healthcare services is low by different segments of the society [1]. The tribes, who constitute 8.6% of Indian population, [2] are the most neglected and vulnerable segment in terms of reception of healthcare and other social services [3]. Similarly, the internal migrants, constitute 28.5% of the country's population, [4] possess low healthcare indicators [5]. Of the rural-urban migrants, a small segment people

migrated from tribal areas (hilly forest areas) and they possess more vulnerability in urban areas due to their multiple disadvantage. The migration of these people takes place in the back ground of poverty and livelihood insecurity, which further exacerbates their vulnerability of accessing healthcare in new urban environment. Also, the poor migrants are exposed to neglect and sometimes to abuse by the system. The degree of access to health care depends on the interplay between the healthcare services and degree of vulnerability of the population [6] Also, the children of these urban poor suffer accentuated vulnerability to illnesses as outbreaks of vaccine-preventable diseases are more common in urban

slums owing to high population density and continuous influx of new pool of infective agents with immigrating population [7]. It is anticipated that the tribal migrant communities with the above characteristics are more likely to forego child healthcare services than other sections of the population. Also, we opine that disaggregated data of such vulnerable population segments are necessary to understand the problem of accessing child healthcare to make the government agencies recognise these segments for special attention. Hence, the present study is undertaken with an objective to report immunization uptake of children of tribal migrants living in an urban city of Eastern India.

Methods

A pilot survey was done among all slums of Bhubaneswar city, the state headquarters of Odisha (formerly Orissa) state of India. Four tribal dominated slums were identified on the basis of their predominance and households were enumerated. From the enumerated list, households were selected based on the criteria: (i) presence of a child aged 1-2 years, and (ii) the family being a tribe and (iii) migrated within last 12 years from rural villages. Duration of 12 years is taken based on the assumption that by 12 years of stay, people habituate to the host urban environment and integrate with host culture. This period was considered after informal discussions with community leaders and members, and taken below 12 years to examine the influence of migration. There were 126 mothers who have youngest child of below 2 years of age. The information on demographics, socio-economic details, migration history and immunization details were elicited through interviewer administered questionnaire. The details of immunization uptake of the child were determined from the immunization card, and in the absence of immunization cards, mothers were asked to recall whether the child had received different vaccines (including the number of doses for each). Specific questions were asked to extract information on each age-appropriate vaccine to be administered to the child. Informed consent was obtained from all

participants. The study protocol is approved by the doctoral committee of Sambalpur University, which reviews ethical issues also. Data were managed and analysed through SPSS V.19.

Results

Mothers were asked whether they were aware of vaccines to protect children from some infectious diseases. Almost all mothers (95.2%) were aware of the vaccines. And it is noted that they usually approach health workers (87.5%) for getting their children vaccinated, followed by government health facility (10.8%) and private practitioners (1.7%). Mothers were asked to show vaccination cards of their reference children. Interestingly, 51% of mothers of boys and 29% of mothers of girl children showed vaccination cards. It is reported that for 33.8% of boys (vs. 54.5% of girl children) vaccination cards were not given; and for 18.4% of boys (vs. 16.4% of girls) vaccination cards were given but were lost. These vaccination cards were issued usually by health workers (83.1%) followed by government health facility (14.1%) and private hospitals (2.8%).

Table-1 shows the uptake of age-appropriate vaccination and vitamin-A among children aged below 2 years. Of all the children, 61.2% of boys and 42.9% of girls were vaccinated with BCG at birth. However, very few children (3.2%) received OPV-0. Of the children above 2 months of age, DPT-1 was received by 64.6% of boys and only 47.2% of girls; and 60% of boys and 47.2% of girls received OPV-1. Of the children who completed 3 months, 50.8% of boys and 40.4% of girls received DPT-2; and 49.2% of boys and 38.5% of girls received OPV-2. Of the children who completed 4 months, DPT-3 was received by 43.3% of boys and 30% of girls; and OPV-3 was received by 41.7% of boys and 30% of girls. All doses of DPT were received by 43.3% of boys and only 30% of girls. However, only 2.7% of children received all doses of OPV. Only 13.8% of children who completed 1 year of age received measles vaccine. Similarly, only 12.8% of these children received vitamin-A prophylaxis. It is remarkable to note that about

Table 1. Details of age appropriate immunization among children

<i>Vaccines (eligibility criteria)</i>	<i>Children who have received vaccines up to their age</i>		
	<i>Boy</i>	<i>Girl</i>	<i>Both</i>
BCG at birth (all children)	41 (n=67) (61.2%)	24 (n=56) (42.9%)	65 (n=123) (52.8%)
DPT-1 (1½ months) (those completed 2 months)	42 (n=65) (64.6%)	25 (n=53) (47.2%)	67 (n=118) (56.8%)
DPT-2 (2½ months) (those completed 3 months)	33 (n=65) (50.8%)	21 (n=52) (40.4%)	54 (n=117) (46.1%)
DPT-3 (3½ months) (those completed 4 months)	26 (n=60) (43.3%)	15 (n=50) (30.0%)	41 (n=110) (37.3%)
All doses of DPT (those completed 4 months)	26 (n=60) (43.3%)	15 (n=50) (30.0%)	41 (n=110) (37.3%)
OPV-0 (at birth) (for all children)	2 (n=67) (3.0%)	2 (n=56) (3.6%)	4 (n=123) (3.2%)
OPV-1 (1½ months) (those completed 2 months)	39 (n=65) (60.0%)	25 (n=53) (47.2%)	64 (n=118) (54.2%)
OPV-2 (2½ months) (those completed 3 months)	32 (n=65) (49.2%)	20 (n=52) (38.5%)	52 (n=117) (44.4%)
OPV-3 (3½ months) (those completed 4 months)	25 (n=60) (41.7%)	15 (n=50) (30.0%)	40 (n=110) (36.4%)
All doses of OPV (those completed 4 months)	2 (n=60) (3.3%)	1 (n=50) (2.0%)	3 (n=110) (2.7%)
Measles (9 months) (those completed 1 year)	8 (n=60) (13.3%)	7 (n=49) (14.3%)	15 (n=109) (13.8%)
Vitamin-A (9 months) (those completed 1 year)	7 (n=60) (11.7%)	7 (n=49) (14.3%)	14 (n=109) (12.8%)
Did not receive a single vaccine (those children completed 1year)	19 (n=60) (31.7%)	25 (n=49) (51.0%)	44 (n=109) (40.4%)
Received all vaccines* (those children completed 1year)	0 (n=60) (0.0%)	0 (n=49) (0.0%)	0 (n=109) (0.0%)

n=Sample size * Three doses of DPT, four doses of OPV, BCG and measles; BCG=Bacillus Calmette-Guérin, DPT= Diphtheria, pertussis and tetanus, OPV=Oral polio vaccine

40.4% children who attained 1 year of age did not receive even a single vaccine, and none of the children received all doses of required vaccines. This shows the poor vaccine uptake among these children. For all vaccines, the uptake is low among girls than boys.

Discussion

Immunization is one of the most cost effective public health interventions. In India, universal childhood immunization has facilitated decline of under-5 mortality rate from ~ 233 to ~ 63 (per

1000) in last five decades [8] However, vaccine preventable diseases remain major contributor to child mortality in India and this can be partly owed to lack of optimal coverage of immunization, and wide disparities across communities. Uptake of vaccines in this tribal migrant community is far below to that of any other socio-economic segment of Odisha state [9]. For example, the percentage of children who did not receive even a single vaccine among urban and tribal populations of Odisha were 16.5% and 22.3%, respectively (vs. 40.4% in the

present tribal migrant community). Similarly, uptake of measles vaccine among the urban and tribal communities were 58.2% and 45.2%, against 13.8% in the present community. Similar trend is noted for uptake of all vaccines. The low uptake of vaccination may be attributed to the migration status of the people in addition to other community-related and health system-related factors. In rural areas from where these tribal community migrated, usually the vaccines are available free of cost at their home through health workers or from nearby health facility. In urban areas, either people need to struggle a lot to reach the health facility for free services; or have to rely on private clinics by paying for vaccines. The visits of health workers are very irregular and poor in this community [10]. Owing to poverty, men are usually busy for livelihood. As availability of work is uncertain, they cannot skip the work for seeking healthcare. Women of this community, who are new to the city, cannot access services due to reasons like lack of accompanying person, hesitation to go alone, unable to communicate because of language and accent differences, etc. In addition, many of these migrants are unaware of the location of the government health facilities, where vaccines are given. In addition to it, other risk factors like illiteracy, poverty and livelihood insecurity also work negatively among this community. Uptake of vaccines is too low among girl children, as seen in several low socio-economic communities [1]. Though women's status is thought to be relatively better in tribal societies, it is undergoing various changes in India [11]. In adverse situations like poverty, the worst sufferers are women and girl children. The migration status further exacerbates their vulnerability for not accessing the child healthcare services. Literature revealed that migrants are less likely to receive immunization [12] and other healthcare services in India [5] and elsewhere [13]. The urban advantage, in terms of improved healthcare services is offset by factors associated with migration of the poor as explained above. Hence, strengthening outreach services of peripheral health facilities and health workers may help in

improving the uptake of immunization by this kind of vulnerable communities in urban areas. Simultaneously, community-related factors are to be addressed by bringing awareness among community on locations of health facilities and available services. Thus, migrant-sensitive approaches are to be placed along with the regular primary healthcare services that exist in urban areas. These measures are applicable to regions of low and middle income countries, where migration to urban areas is considerable.

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